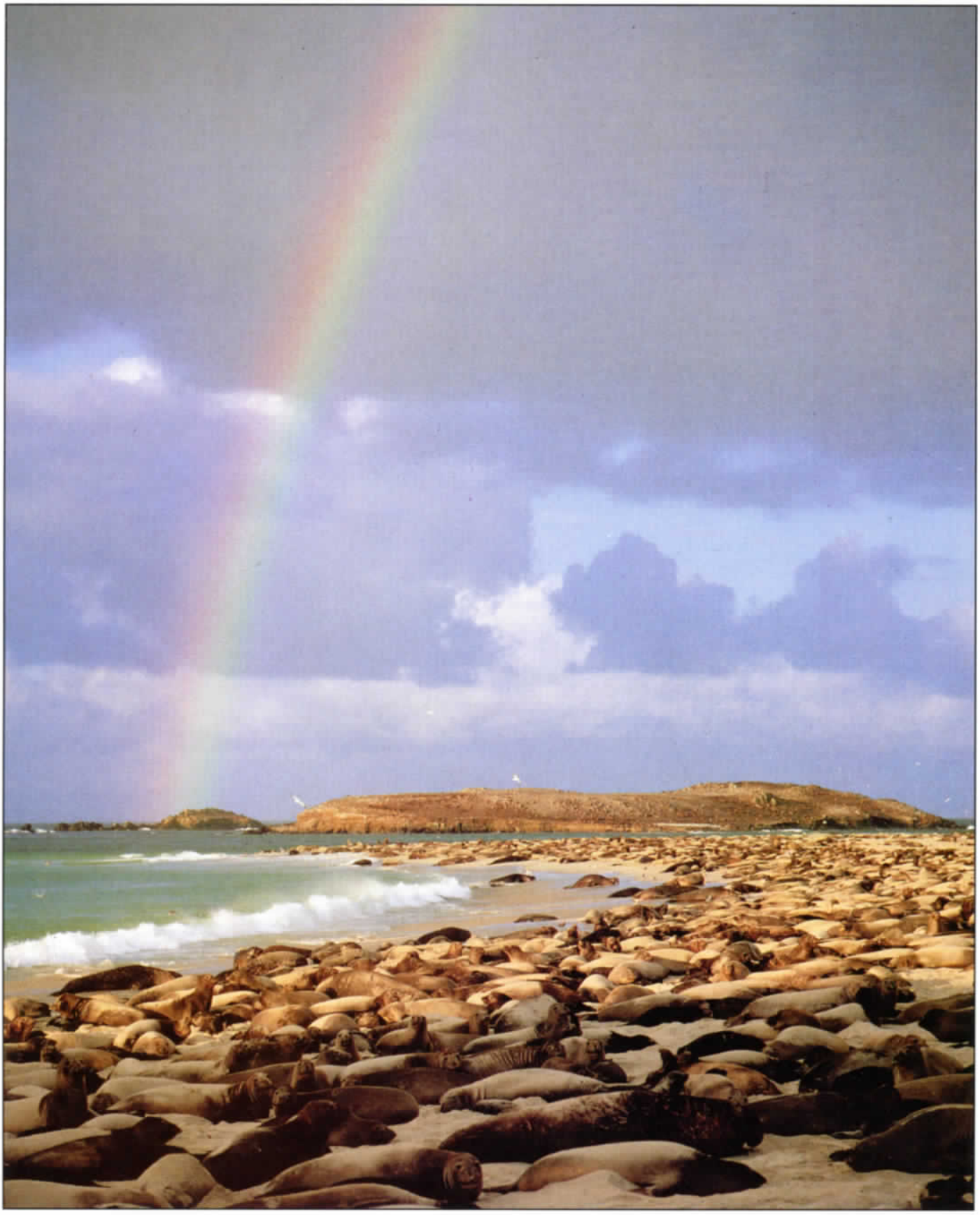
westways

MARCH 1991
$2.00



A rainbow arcs above a seal-packed beach on San Miguel Island. Breeding is the main order of business for this congregation.

RECLAIMING THE BEACH

ARTICLE AND PHOTOGRAPHS BY JIM ZUCKERMAN

Northern elephant seals have made a resounding return from the brink of extinction. Of all their offshore rookeries, San Miguel Island's Point Bennett provides one of the most extensive arenas in which to study these unique creatures.

The comeback of the northern elephant seal is one of the great success stories of state and federal wildlife protection. The seals were almost hunted to extinction by the turn of the century. Biologists estimate that only 100 to 500 animals were left before protective legislation was passed.

Before the legislation, elephant seals were most vulnerable to sealers from late November to mid-March as they "hauled out" on Pacific beaches to mate and give birth. From the Farallons off the coast of San Francisco to Guadalupe Island west of northern Baja California, elephant seals congregate.

Today there are approximately 150,000 elephant seals. At the present birthrate, the population is doubling every five years.

The most spectacular assemblage occurs on San Miguel Island—the westernmost member of Channel Islands National Park off Ventura. Between 10,000 and 11,000 seals crowd the windswept beach at Point Bennett, generating a cacophony that can be heard for two or three miles.

I had wanted to photograph elephant seals on San Miguel for two years, but government red tape proved a formidable obstacle. I had to post a $100,000 liability insurance bond plus an additional $25,000 camera floater. I also had to get permission from the California Department of Fish and Game, as well as the National Park Service, and make special arrangements with one of the two charter air services authorized to land on San Miguel. And that was only the beginning.

Brent Stewart, a research biologist stationed on the island, kindly agreed to share his quarters with me for four days, but more important, he guaranteed the park service that he would accompany me at all times.

The flight to San Miguel from Santa Monica was spectacular. From 2,000 feet, the ocean below, as we neared the island, actually seemed transparent. After spotting a pod of migrating gray whales, we flew over Point Bennett and landed in a dry lake bed two miles from the noisy rookery.

As I approached the hauling beach, I learned that the loudest of the group are the females. In protecting their new pups, they let any intruders know that the welcome mat is definitely *not* rolled out. Their roar is deep, coarse and unpleasant. It is usually directed at other females, any adult males nearby, stray pups and, of course, photographers.

Although they're perfectly proportioned for aquatic life, the highly specialized shape of this playful pair points to inherent difficulties in dry-land navigation.

Pups are born after a gestation period of slightly more than 11 months. Their birth weight ranges between 50 and 60 pounds. When they are weaned 27 days later, they weigh about 250 pounds. Since all pinnipeds (the order consisting of seals and sea lions) are mammals, the young nurse until they become independent. Elephant seal milk is 80 percent fat and ensures rapid weight gain and the development of a thick layer of blubber to protect the pups against the cold ocean depths. When a pup is weaned, it molts its black natal fur and grows a sleek gray coat.

Sex can be determined by the pup's teeth. In females, canines erupt one week prior to weaning. In males this occurs three weeks after weaning. Since a nursing female will accept only a toothless pup, this disparity enables male pups to nurse after the weaning period. Some researchers have suggested that this may be an evolutionary mechanism to give males an advantage in attaining a larger size earlier in life. Although by no means universally accepted, this theory points toward the importance of male size and strength—attributes that are necessary to ensure male domination over a group of females and to enable the passage of genetic material to future generations.

Mature males try to maintain as great a sphere of influence as is physically possible. Females are able to breed shortly after they wean their pups, and the strongest, most aggressive males will mate with any female within their defended perimeter. The term *harem* is used to describe this type of social unit, but it's not really

an accurate one. Rather than a fixed number of females that are herded together and protected, these associations are a bit more flexible. Some members may leave, while others join. A number of full-grown bulls are included, and their access to the cows is determined by a social hierarchy established by threats and fighting.

When a dominant male is challenged, the aggressor arches his back and makes a trumpeting sound. This vocal threat signals the beginning of a battle that can last a few seconds or several minutes. Both combatants approach each other in a nearly vertical posture. They press against each other for a few tension-filled moments and then slam their canines into the neck shield of their adversary. This shield, a protective thickening of tissue that begins developing at about 6 years of age, prevents serious internal injuries. Blood is frequently drawn, but the fight is seldom to the death. When fatalities do occur, they are usually due to cranial punctures. Hostilities usually end with the retreat of the weaker bull. A defeated old bull often simply removes himself from the group and dies.

Fights are characterized by absolute single-mindedness. Anything in the way gets trampled. Females and pups scatter to avoid being crushed, but sometimes the young are killed. There's a 3 to 8 percent pup mortality at Point Bennett. Some of it is fight related. A mature bull can weigh as much as 5,000 pounds (that's somewhat smaller than the southern elephant seals near the Antarctic), and a youngster caught under such bulk has little chance of survival.

Pups (inset) are dwarfed by the bulk of the adult elephant seals. A biologist's measuring gauge (below) puts the size of these great pinnipeds in perspective. Battles for dominance between bulls (opposite), while awe inspiring, are seldom fatal.

Other factors contribute to pup mortality. Separation from the mother is a major cause of death. It is relatively easy for pups to become isolated from their mothers on a crowded beach, and if no other female accepts the stray, it will eventually die.

Although adults are preyed upon in the water by great white sharks and killer whales, they have no natural enemies on land anymore. Sealers of the last century slaughtered them for the fine grade of oil contained in their blubber.

The unique feature of elephant seals—and the inspiration for their name—is the male proboscis, an enlargement of the nasal cavity. It overhangs the mouth in front so the nostrils open downward. Males can raise this organ—partly by muscular action, partly by blood pressure—to form a high, bolster-shaped cushion on top of the snout. This acts as a resonation chamber that permits the animal to emit its distinctive trumpeting sound during mating season. Outside mating season, the proboscis is flattened and less obvious.

Although streamlined and well adapted for swimming, elephant seals expend a great deal of energy moving about on land. They must pull themselves along with their front flippers while undulating their bodies. The effort involved to propel such bulk is noteworthy because during the entire breeding season, neither the adult males nor the adult females feed. They must survive on the stores of fat accumulated in previous months. Females can lose as much as 50 percent of their body weight by the time they return to the sea.

Biologists continue to gather as much information about elephant seals as possible. An increased understanding of their social and environmental needs makes it easier to protect them from clashes with humans. Stewart, an employee of Hubbs-Sea World Research Institute in San Diego, tries to minimize the impact of his presence as he moves among the seals to collect data. In the course of his studies on seal population dynamics, Stewart tags about 1,000 pups and adults during breeding season. He uses a plastic tag that is punched through the webbing of one of the flippers. When sleeping seals are first tagged, they usually wake up startled and then fall back to sleep.

Through legislated protection and research, the northern elephant seal has a viable population rebounding from near-annihilation. We can all breathe a little easier on behalf of this amazing animal.

It looks as if we were lucky this time.

Writer-photographer JIM ZUCKERMAN is a frequent contributor to WESTWAYS *on a broad range of outdoor subjects.*